

29-MAY-2018 56312E31

RYB080I

lite User Guide





RYB0801_lite User Guide **REYAX**

STEP 1. INSTALL THE SOFTWARES

Download the USB to RS232 driver (CP210x_VCP_Windows.zip)

https://www.silabs.com/products/mcu/Pages/USBtoUARTBridgeVCPDrivers.aspx

(After installing the driver, plug the USB cable, and then check the COM port number from Device Manager)

- Processors
- Software devices
- 👂 🏺 Universal Serial Bus controllers
- ⊿ 🐺 Ports (COM&LPT)
 - 🚏 Silicon Labs CP210x USB to UART Bridge (COM3)
- Mice and other pointing devices
- 2.) Download *Access Port*, which is a serial port monitoring tool for Windows. <u>http://www.sudt.com/en/ap/</u>
- 3.) Download App *REYAX BLE UART* for Android smartphones <u>http://reyax.com/wp-content/uploads/2017/09/RYB070I_Android_V01.zip</u>
- 4.) Download App *LightBlue* for iPhones. <u>https://itunes.apple.com/us/app/lightblue-explorer-bluetooth/id557428110?mt=8</u>



LightBlue – Bluetooth Low Energy By Punch Through

Description

2.2.2 iPhone 6 screen size compatibility Numerous bug fixes

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STEP 2. CONNECTION SETTING

- 1.) Plug USB cable to connect the EVB and the PC.
- 2.) Open the software Access Port : Tools \rightarrow Configuration
- 3.) Set the COM port number and the baud rate (Default is 9600bps).

| General Event Control Flow Control Timeout Control Monitor Control | General Custom Baud Rate Enable 9600 | | | | | |
|--|--|--|--|--|--|--|
| | Serial Port Settings | | | | | |
| | Port: COM3 | | | | | |
| | Baud Rate: 9600 🗸 | | | | | |
| | Parity Bit: NONE 🗸 | | | | | |
| | Data Bit: 8 | | | | | |
| | Stop Bit: 1 | | | | | |
| | Buffer Size: 8192 🗸 | | | | | |
| | Send display Receive display | | | | | |
| | Char Format Char Format | | | | | |
| | O Hex Format | | | | | |
| | AutoSend Enable auto send Cycle 1000 ms | | | | | |
| 2. | Advanced | | | | | |
| <i></i> | Auto open port when application start | | | | | |
| OK | Prompt for saving when application exit | | | | | |
| Cancel | Remind me when update is available | | | | | |

| s ^{al} Ad | ccessPort - C | OM3(9600,N,8,1) | Opened | – 🗆 🗙 |
|-----------------------------|---------------|-------------------|----------|--------------------|
| File Edit View Monitor Tool | s Operation | Help | | |
| 🍫 🕑 🔁 📃 🍃 | | | | |
| Terminal Monitor | | | | |
| 🔚 🛛 🖽 Hex 🛛 🗗 🔀 | | | | |
| +READY +ENTER=1 +V1.0 | | | | |
| Send-> OHex OChar | Plain Text | ✓ Real Time Send | Clear | Send DTR RTS |
| | | | | ~ |
| Comm Status CTS DSR | RING R | LSD (CD) CTS Hold | DSR Hold | RLSD Hold XOFF H |
| Ready | | Tx 0 | Rx 25 | COM3(9600,N,8,1) (|

4.) Press the RESET button on the EVB, then it can be connected by a smartphone.

STEP 3. COMMUNICATION TEST WITH SMARTPHONES

[For Android smartphones **]**

- 1.) Open the Bluetooth function of your smartphone and the App *REYAX BLE UART*, search and connect to the device. (The default broadcast name is BLE_MODULE)
- 2.) Send "Hi(+ENTER)" from the HyperTerminal on PC, and then send "I am here!" from the smartphone App.

| REYAX BLE UART | REYAX BLE UART |
|---|--|
| Connect | Disconnect |
| REYAX BLE UART | [下午4:48:02] Connected to: BLE_MODULE [下午4:48:15] RX: Hi |
| Select a device (i) | |
| BLE_MODULE Rssi = -55 EC:24:88:23:2E:61 -55 | |
| Scan | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Send | I am here! Send |
| Device: <select a="" device=""></select> | Levice: BLE_MODULE - ready |

| 🕮 AccessPort - COM3(9600,N,8,1) Opened – 🗖 🗙 | |
|--|---|
| File Edit View Monitor Tools Operation Help | |
| 🎭 🕘 🔁 🗒 🗇 | |
| Terminal Monitor | |
| 🖬 🔛 Hex ab 🖾 🧟 | |
| +READY +ENTER=1 | |
| +V1.0 (BLE is connecting) ++++++ (Sent" Hi " to the smartphone App) +>>>> (Received the message sent from the smartphone App) | |
| I am here! | |
| Send-> 🔿 Hex 💿 Char Plain Text 🗸 🗋 Real Time Send Clear Send 🗋 DTR 🗌 RTS Max Size < 64KB | |
| Hi | ^ |
| | |
| Comm Status CTS DSR RING RLSD (CD) CTS Hold DSR Hold RLSD Hold XOFF Hold | × |
| Commission Cis Hold ACFF Hold <t< td=""><td></td></t<> | |
| Copyright © 2018, REYAX TECHNOLOGY CO., LTD. 5 | |

[For iPhones]

- 1.) Open the Bluetooth function of the smartphone and the App *LightBlue*, search and connect to the device. (The default broadcast name is BLE_MODULE)
- 2.) Enter the Characteristic 4 item to receive the messages which are sent from the HyperTerminal on PC, or enter Characteristic 1 item to send messages to the HyperTerminal.

| Info | LightBlue | + | LightBlue Perip | heral Clon |
|-----------------|-----------------|---|--|--------------|
| eripherals | s Nearby | | <010d0000 001001> | - |
| BLE 88 1 ser | _MODULE vice | > | UUID: FFF0 | |
| Virtual Peri | ipherals | | Characteristic 1 Properties: Read Write UUID: FFF1 | Sender UUID |
| | | | Characteristic 2 Properties: Read UUID: FFF2 | > |
| | | | Characteristic 3 Properties: Write UUID: FFF3 | > |
| | | | Characteristic 4 Properties: Notify UUID: FFF4 | Receiver UUI |
| | | | Characteristic 5 Properties: Read UUID: FFF5 | 2 |

3.) Enter the Characteristic 4 item, click "Listen for notifications" button to receive the messages. And click "Hex" button to change the character format to "UTF-8 String".

| Kerker Back OxFFF4 Hex | Cancel Characteristic Format |
|--|--------------------------------------|
| BLE_MODULE | BLE_MODULE |
| Characteristic 4 UUID: FFF4 Connected | Characteristic 4 |
| NOTIFIED VALUES | Ох123456 Нех 🗸 |
| Listen for notifications | 004432126 _{Octal} |
| DESCRIPTORS | 0b000100100011010001010110 Binary |
| Client Characteristic Configuration Characteristic 4 Characteristic User Description | "4V" UTF-8 String |
| PROPERTIES | Byte Count: ∞ - + |
| Notify | Endianness: Big Little |

- 4.) Send "Hi(+ENTER) "to the smartphone App from the HyperTerminal on PC, it will show as below.
- 5.) Then enter the Characteristic 1 item. Click "Hex" button to change the character format to "UTF-8 String" first, and click "Write new value " button.

| Kerk Back 0xFFF4 | UTF-8 | K Back | 0xFFF1 | UTF-8 |
|---|--------------|-----------------------------------|----------------------------|-------|
| BLE_MODULE | | BLE_MODULE | E | |
| Characteristic 4 UUID: FFF4 Connected | | Charac UUID: FFF1 Connected | teristic 1 | |
| NOTIFIED VALUES | | READ VALUE | S | |
| Sto | op listening | Read again | | |
| "Hi 16:35:37.217 | | "C" 16:35:48.767 | | |
| DESCRIPTORS | | WRITTEN VA | LUES | |
| O Client Characteristic Configuration | | Write new va | alue | |
| Characteristic 4 | | DESCRIPTOR | RS | |
| Characteristic User Description PROPERTIES | | Characteri Characteristic | stic 1 User Description | |
| Log | | | Log | |

6.) Send the message to the HyperTerminal on PC. It will show the transmitting records.

| CoxFFF1 Edit Value | Kernel Back 0xFFF1 UTF-8 |
|----------------------|---|
| UTF-8 String | BLE_MODULE |
| I am here! | Characteristic 1 UUID: FFF1 Connected |
| | READ VALUES |
| | Read again |
| | "I" |
| | 16:36:24.318 "C" |
| 1 2 3 4 5 6 7 8 9 0 | 16:35:48.767 |
| | WRITTEN VALUES |
| - / : ; () \$ & @ " | Write new value |
| #+= . , ? ! ' 🗙 | "I am here!" 16:36:24.206 |
| ABC Q space Done | Log |

| 7.) | You could also | check the | communication | information on | PC as below. |
|-----|----------------|-----------|---------------|----------------|--------------|
|-----|----------------|-----------|---------------|----------------|--------------|

| 1 1 22 | | | A | ccessPo | rt - COM3(96 | 00,N,8,1) Op | ened | | | x |
|--------------------|--------------------|---------|-------------|-----------|----------------|--------------|------|---------------|---------------|----------|
| File Edit | View Monitor | Tools | Operatio | on Help | | | | | | |
| S |) 🔁 📃 | 5 | 2 | | | | | | | |
| Termina | l Monitor | | | | | | | | | |
| 🔚 🔛 Hex | ab 🖾 🗟 | | | | | | | | | |
| +READY +ENTER=1 | | | | | | | | | | |
| +V1.0 | | | | | | | | | | |
| | (BLE is connecting | | | | | | | | | |
| +>>>> | (Sent" Hi "to the | smartph | one App) | | | | | | | |
| I am here! | (Received th | e messa | ge sent fro | om the sm | artphone App) | | | | | |
| | | | | | | | | | | |
| Send-> () | Hex 💿 Chau | r (| Plain Text | v | Real Time Send | Clear | Send | DTR RTS | Max Size < 64 | 4KB |
| Hi | | | | | | | | | | ^ |
| | | | | | | | | | | |
| | | | | | | | | | | ~ |
| Comm Status | CTS 1 | DSR 🗌 | RING | RLSD (C | D) 🗌 CTS Hold | DSR Hold | RLSD | Hold 📃 XOFF H | Iold | |
| Ready | | | | | | | Tx 0 | Rx 25 | COM3(9600,N | v,8,1) (|



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